



Space News Roundup

Vol. 29

May 18, 1990

No. 20

Bush sets Mars landing timetable

By Kari Fluegel

President George Bush gave his support to space exploration initiatives again last week and announced a goal of planting the United States flag on Mars within the next 30 years.

In a commencement speech at Texas A&I University in Kingsville, Bush said the nation is at a halfway point in the exploration of the solar system.

"Thirty years ago, NASA was founded and the space race began," the president said, "and 30 years from now I believe man will stand on another planet."

"I am so pleased to return to Texas today to announce a new age of exploration with not only a goal but also a timetable. I believe that before Apollo celebrates the 50th anniversary of its landing on the Moon the American flag should be planted on Mars."

The president first announced a plan to explore the solar system last July during the 20th anniversary celebration of the Apollo 11 lunar landing. At that time he laid out a pathway first to Space Station Freedom, then to a permanently manned outpost on the Moon and finally to manned exploration of Mars.

"The president's goal is certainly within reach of the United States," said Doug Cooke, acting manager of the Lunar and Mars Exploration Program Office. "We are developing, within NASA, a range of alternative mission architectures that will meet his stated milestones and contribute significantly to his goals of developing important technologies that will enhance the country's stature in the world market and improving the quality of education."

"The President's speech is a real boost for continuing negotiations in Washington. The President is definitely doing his part in keeping the pressure on to get the lunar and Mars program off the ground."

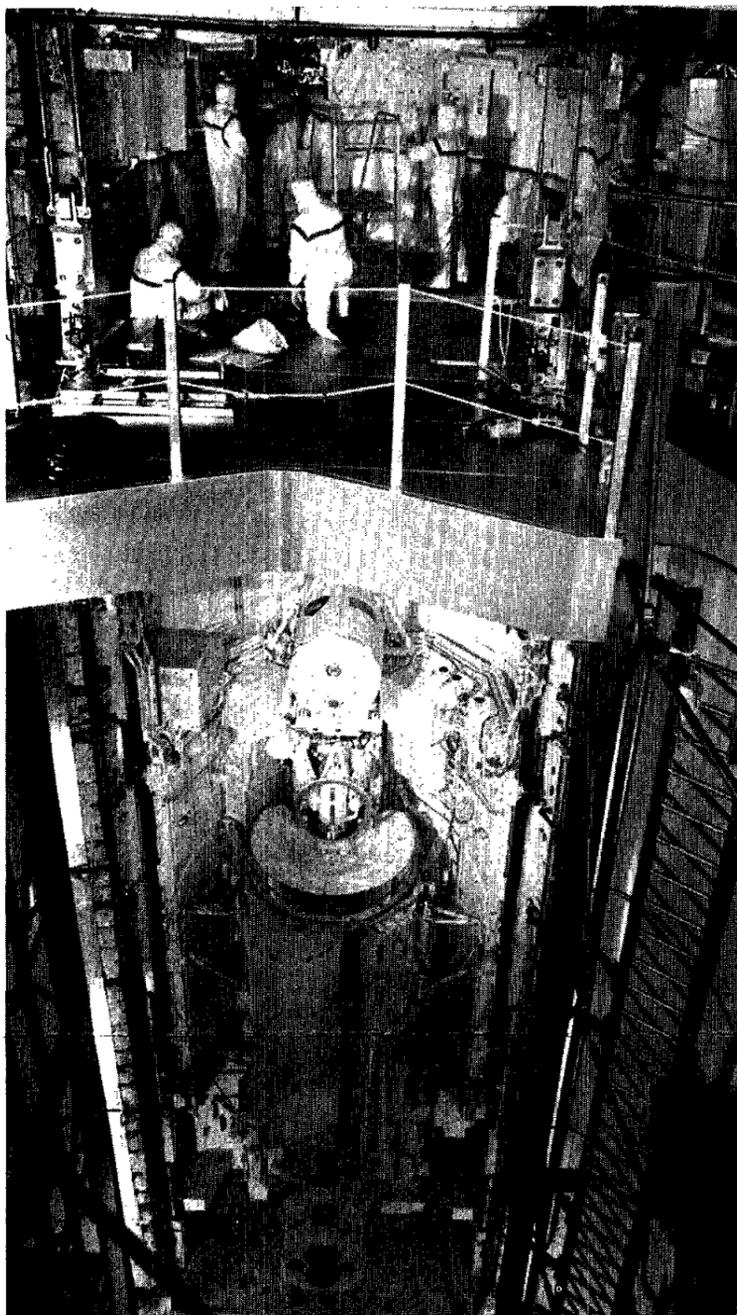
Also in his speech, Bush said it is time to open the final frontier of space.

"There's no turning back," the President said. "America's space program is what civilization needs to begin this journey, and to perfect the commitment to go beyond. Each time we go to the frontier and beyond, we bring back more than we hoped for. This time we have the chance to bring back more than we can imagine."

The President added that the fiscal year 1991 budget is proof of the commitment to "an active, exciting and continuing presence in space." He said the proposed budget calls for a 24 percent increase to \$15.2 billion.

Bush lauded the efforts of three JSC employees who are part of the team

Please see **BUSH**, Page 4



NASA Photo

Kennedy Space Center workers change out a flow proportional valve on Columbia's Freon coolant loop. They worked directly over Astro-1 in the payload bay, replacing the difficult-to-reach valve on the pad for the first time.

Weitz to chair Combined Federal Campaign

JSC Deputy Director P.J. Weitz has agreed to be chairman of the 1990-91 Combined Federal Campaign (CFC), working with three of the top money-raising campaigns in Houston.

As chairman, Weitz will be responsible for making all final campaign decisions for the CFC, which is the federal government portion of the United Way Community Campaign.

The goal for this year's CFC is \$2 million. Last year, federal employees contributed \$1.74 million.

"As chairman, you will play a

critical role in the success of our overall goal and commitment to increase giving in our community," 1990-91 Community Campaign Chairman Richard J.V. Johnson told Weitz in a recent letter.

Weitz will be directly responsible for three of the Apollo Division accounts—those that usually raise \$10,000 or more. He'll attend all division briefings for agency heads and campaign kickoffs.

"I'm really looking forward to the challenge of this campaign and to investing some of my time in a truly

worthwhile cause," Weitz said. "I know that JSC employees will again be leaders in this effort to help people less fortunate than themselves and I'm sure we'll be able to meet or exceed our goal."

Weitz already has chosen his campaign cabinet. Ronald Pitts, U.S. Postal Service general manager, will head the Apollo Division. Walter Metzger, Federal Aviation Administrator manager, will lead the Gemini Division.

Marine Col. Charles Bolden, astronaut, will head the Military Division.

Diana Ayers, chief of the Houston Branch of the Environmental Protection Agency, will manage the Challenger Division. Gilbert Bryant, head of the Government Service Administration's Real Property Office, will lead the Judicial Division. And Harriet Ehrlich, district director of the Equal Employment Opportunity Commission, will run the Education and Training Division.

The Community Campaign kickoff currently is planned for Aug. 29. The CFC kickoff has not yet been scheduled.

Gooding earns prestigious Flemming Award

JSC scientist James L. Gooding, who for the past five years has dedicated himself to planning NASA's future Mars visits and plumbing the secrets of Martian meteorites, recently received the prestigious Arthur S. Flemming Award.

The Flemming Award, presented by the Downtown Jaycees of Washington, D.C., honors five career civil service administrators and five scientists and technicians each year for outstanding individual performance in the federal government. Past JSC winners include Maxime Faget, George Low, Christopher C. Kraft Jr., Neil Armstrong, Eugene Kranz, Harrison Schmitt, Glynn

Lunney and Carolyn Huntoon.

"It's really a humbling experience to be included in this group," said Gooding, of the Space and Life Science Directorate's Planetary Science Branch. "We (civil servants) try to do the best job we can and don't expect much more than that, so to receive an award at this level is sort of surprising."

Gooding received the award in ceremonies at Washington's Westin Hotel on May 3. Elizabeth Dole, secretary of the U.S. Department of Labor and a 1971 Flemming Award recipient, was the keynote speaker.

The award was bestowed on Gooding "for his outstanding

achievement as a research scientist, for his significant contributions to the definition of the scientific goals of future NASA space missions, and for his contributions to the educational programs and youth sports activities in the community.

"Dr. Gooding's discoveries of fundamental aspects of planetary science have significantly impacted our understanding of planetary bodies, especially Mars."

Two other NASA employees received 1989 Flemming Awards, Susan L. Cloud, an attorney at Marshall Space Flight Center, and Alan E. Lew, a facilities manager at

Please see **GOODING**, Page 4



James L. Gooding

Hubble locks on target; focusing efforts begin

The Hubble Space Telescope (HST) may snap its "first light" photos Sunday if efforts to lock it on target and focus the observatory continue to be successful.

Mike Harrington, HST's director of orbital verification, said the first solid sensor locks on the telescope's sensitive guidance system were achieved Wednesday. Using data from those scans, operators made two focusing adjustments of the secondary mirror and produced a three to four-fold increase in the star counts.

Please see **HUBBLE**, Page 4

Coolant valve fixed; launch target pending

By Kyle Herring

Shuttle managers will meet next week to select a new launch target date for the STS-35 Astro-1 mission now that a replacement coolant loop flow valve has been installed aboard Columbia.

Managers Wednesday set May 24 as the date to hold the "delta" flight readiness review to assess the vehicle's ability to support a nine-day mission.

Columbia had been set for launch May 17, but erratic readings from a flow

proportional valve on one of two Freon coolant loops forced the launch team to stand down while the valve was changed out. The coolant loops channel heat away from orbiter and payload avionics electronics equipment.

Work to replace the valve began immediately and technicians were able to remove the faulty unit Tuesday. It was taken to the Rockwell Service Center at Cape Canaveral for failure analysis.

Preliminary analysis showed fragments of the valve's inlet filter on two of the valve's other filters. Inspections of the lines where the valve was removed revealed no other contamination.

The spare valve was installed Wednesday and Thursday. Following installation, all connections were verified and preparations were under way to reservice the system with seven gallons of refrigerant.

The valve became suspect during

routine testing that showed the flow through the valve was degraded and below the level acceptable for launch.

Payload officials are continuing to monitor the status of the Astro payload. The Broad Band X-Ray Telescope, one of the Astro-1 mission telescopes, was serviced with argon on Thursday. Managers reported that all payloads would be ready to support

launch once the replacement work on the Freon system is completed.

The launch date for STS-35 is being assessed

and will be based on the successful completion of work to repair the cooling system. With work progressing well at the launch pad, Columbia could be ready for its 10th flight sometime during the last week of this month.

The crew for the 36th Shuttle mission is continuing simulator training and will return to Kennedy Space Center three days prior to launch.

Vance Brand is commander of the flight with Guy Gardner as pilot. Mission specialists are Mike Lounge, Jeff Hoffman and Robert Parker. Ron Parise and Sam Durrance will be payload specialists.

In the Orbiter Processing Facility, Atlantis is nearing completion of processing for its next flight, a dedicated Department of Defense mission. The orbiter is scheduled for transfer to the Vehicle Assembly Building June 3 or 4 to be mated to its external tank and solid rocket boosters. Launch of the STS-38 mission is scheduled for July 9.



JSC

Ticket Window

The following discount tickets are available for purchase in the Bldg. 11 Exchange Gift Store from 10 a.m.-2 p.m. weekdays.

General Cinema (valid for one year): \$3.75 each.
 AMC Theater (valid until May 1991): \$3.50 each.
 Sea World (San Antonio, year long): adults, \$17.25, (2-day, \$21.95); children (3-11) \$14.75, (2-day, \$18.95).
 Astroworld (valid 1990 season): season, \$39.95; regular, \$15.97; children, \$9.21; Waterworld, \$8.15; 2 day—AW/WW, \$18.47.

JSC

Gilruth Center News

Sign up policy—All classes and athletic activities are first come, first served. To enroll, you must sign up in person at the Gilruth Recreation Center and show a badge or EAA membership card. Payment must be made in full at the time of registration. Classes tend to fill up four weeks in advance. For more information, call x35789 or x30304.

EAA badges—Dependents and spouses may apply for a photo I.D. 6:30 p.m.-9:30 p.m. Monday-Friday.

Defensive driving—Course is offered from 8 a.m.-5 p.m. June 16 and July 21; cost is \$15.

Aerobics and exercise—Both classes are ongoing. Sign up in the Gilruth Center.

Country and Western dance—Lessons begin June 4. This course will be held every Monday for 6 weeks, cost is \$20 per couple.

New way to start your day!

The JSC Employee Information Service now is updating its reports at 8:30 every morning.

For the latest information on what's happening at JSC, from seminars to crew return ceremonies, the JSC Employee Information Service has what you're looking for.

The recorded announcement can be reached by calling:

483-6765

JSC

Swap Shop

Swap Shop ads are accepted from current and retired NASA civil service employees and on-site contractor employees. Each ad must be submitted on a separate full-sized, revised JSC Form 1452. Deadline is 5 p.m. every Friday, two weeks before the desired date of publication. Send ads to Roundup Swap Shop, Code AP3, or deliver them to the deposit box outside Rm. 147 in Bldg. 2.

Property

Sale: Lampasas Cty., 1,011 acres, \$425/acre, all amenities. 946-7587.

Sale: 60 acres, 3 mi. from Karnes City, TX, 50 mi. from San Antonio. 783-9164.

Sale: League City 14x80 mobile home on tree shaded lot, \$23K. 334-1883.

Rent: Crystal Beach, 2 BR, deck, \$325/wk. plus \$200 dep. (409) 755-1638.

Sale: Camino So., 3-2-2A, FPL, island kitch., tile patio, \$79,900. x33335 or 488-7490.

Rent: Baywind I, 2-2, refrig., W/D conn., FPL, ex. cond., prefer no pets, \$375/mo., Jill Fuller, 893-7200, x118 or 480-7359.

Lease: 4-2-2 in El Lago, all appli., avail. May 1, \$800/mo. 326-6811 or 488-8611.

Sale: Hillton Lakes, 80x120 lot w/taxiway to runway, golf, etc., \$6,000, OBO. 554-6201.

Rent: 2 rooms in LC, \$250/mo. furn., \$225/mo. unfurn., bills split, non-smokers, pets tolerated. Russ, 332-4336.

Rent: Bay Area Blvd. condo, \$460/mo., avail. May 13, 2-2, no children/pets/smokers, W/D conn., refrig. Rodney, x38889 or 480-1340.

Lease: Piper's Meadow, 3-2-2, study, FPL, refrig., \$795/mo. Jon, 486-5659.

Sale: 2 lots, 1/3 acres/ea., 70x185, Friendswood, owner fin. w/10% down. 482-5226.

Sale: Bay house on Caranchua Bay, furn., access to ramp/pier, \$40K. (409) 543-2052.

Sale: Waterview lots near NASA, mid \$30's. Don, x38039 or 333-3313.

Lease: CLC, 1 BR condo, W/D conn., FPL, microwave, fans, appli. Jim Briley, 488-7901.

Lease: Univ. Green, 3-2-2 patio home, 5 min. to NASA. 334-3661 or 996-7456.

Sale: Waterwood home, near marina, 2-2-1 or 2CP, furn., \$45K, owner fin. (409) 891-5190.

Rent: '84 mobile home, 14x60, 2-1, Alvin, \$375/mo. plus dep. Renee, 333-6044 or Allen, 331-5266.

Trade: 4-2 W. of Austin, prefer 5 yr. old open plan w/in 20 min. of JSC. 471-8795 or 333-6083.

Rent: Motor home, 28', self contained. 554-4880.

Lease: Heritage Pk., 3-2-2, formal din., miniblinds, fan, FPL, \$685/mo. 482-6609.

Rent: Mobile home lot, \$85/mo., \$50/dep., Oklahoma and Kinne, Bacfliff. 488-1758.

Rent: Galv. condo, furn., sleeps 6, dly./wkly. x33479 or 486-0788.

Lease: CLC, 1 BR condo, W/D conn., FPL, microwave, fans, appli. Jim Briley, 488-7901.

Lease: Univ. Green, 3-2-2 patio home, 5 min. to NASA. 334-3661 or 996-7456.

Sale: Waterwood home, near marina, 2-2-1 or 2CP, furn., \$45K, owner fin. (409) 891-5190.

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'81 Pontiac LeMans wagon, ex. mech. cond., V6, \$13K. x33335 or 488-7490.

'86 Subaru Turbo XT, gray, all pwr., good maint., \$7K, OBO. Lisa, 282-5255 or 996-7734.

'78 Pontiac Firebird Esprit 350 4V, good cond., \$2,250, Currie, x34703 or 484-3317.

'84 Dodge Daytona turbo, 5-spd., loaded, 82K mi., runs well, \$2,400. 282-6236 or 488-7999.

'81 Olds Toronado, V8, loaded, ex. cond., \$2,750, OBO. Ron, x36158 or (409) 945-8787.

'80 elec. car, licensed, 40 mi. range, 38mph, \$1,800. 532-4784.

'84 Cougar LS, ex. cond., all pwr., \$4,195. Betty, 996-8471.

'87 Pontiac Bonneville 4-dr. sedan, 3.8L V6, ex. cond., 57K mi., \$7,200. Sy, x30504 or 776-9754.

'66 Ford Mustang coupe, good cond., \$2,500, OBO. Stacy, x32475 or 332-1585.

'65 Olds Starfire sport coupe, 106K mi., orig. owner, \$2,500, OBO. Tom, x38298 or 488-4089.

'81 Chrysler Cordoba, AM/FM ster., tilt, \$500 cash. 483-8183.

'83 Ford F-150 Supercab, 4-spd. OD, 75K mi., \$3,495, OBO. 339-1337.

'52 Chev. 1/2 ton PU, wooden bed, 5 wndw., \$7K or trade equal value. 538-1434.

'66 Plymouth Fury III, new trans./rad./batt./uphol., \$950, OBO. x36135 or 480-7196.

'84 Monte Carlo, 2-dr., CL, loaded, ex. cond., \$4,250. Bruce, 485-0396.

'77 Corvette, good cond., sell or trade for PU, \$4,950. Bruce, 485-0396.

'84 Cadillac DeVille sedan, ex. cond., \$5,400; '80 Datsun 280 ZX, sports mod., 69,700 mi., \$1,350. Mike, 333-2335.

'89 Acura Legend sedan, L mod., auto., L-pkg., 19K mi., warr. 282-4323 or 485-6251.

'80 Dodge D50 PU, auto., good cond., \$1,500, OBO. x37320 or 431-0199.

'88 Ford Ranger, 5-spd., bedliner, good cond., \$4,800, OBO. 283-4104 or 332-7881.

'78 Ford F250 PU, 4 WD, auto., \$2,000. Renee, 333-6044 or Allen, 331-5266.

'67 Ford F250, new eng./clutch, warr. Rick, x35571 or 72.

'86 Ford T-Bird turbo, 2-dr. coupe, fully equipped, ex. cond. 538-1711.

'77 Porsche, less than 79K mi., \$4,000, OBO. 333-7345 or 474-2339.

'85 Buick Park Ave., equipped, 66K mi., ex. cond., \$7K. 482-1535.

'81 Suzuki GS 550 MZ Katana, 11K mi., good cond., \$800. Kevin, 333-7076 or 480-2549.

'89 Acura Legend sedan, L mod., auto., L-pkg., 19K mi., warr. 282-4323 or 485-6251.

'80 Dodge D50 PU, auto., good cond., \$1,500, OBO. x37320 or 431-0199.

'88 Ford Ranger, 5-spd., bedliner, good cond., \$4,800, OBO. 283-4104 or 332-7881.

'78 Ford F250 PU, 4 WD, auto., \$2,000. Renee, 333-6044 or Allen, 331-5266.

'67 Ford F250, new eng./clutch, warr. Rick, x35571 or 72.

'86 Ford T-Bird turbo, 2-dr. coupe, fully equipped, ex. cond. 538-1711.

'77 Porsche, less than 79K mi., \$4,000, OBO. 333-7345 or 474-2339.

'85 Buick Park Ave., equipped, 66K mi., ex. cond., \$7K. 482-1535.

'81 Suzuki GS 550 MZ Katana, 11K mi., good cond., \$800. Kevin, 333-7076 or 480-2549.

'89 Acura Legend sedan, L mod., auto., L-pkg., 19K mi., warr. 282-4323 or 485-6251.

Today

"Earth on Candid Camera"—The Houston Space Society will present "The Earth on Candid Camera" at 7:30 p.m. May 18, in the Atlantic Room of the University of Houston. David Amsbury will be guest speaker. For more information call 639-4221.

Cafeteria menu — Special: Salisbury steak. Entrees: fried shrimp, deviled crabs, ham steak. Soup: seafood gumbo. Vegetables: buttered carrots, green beans, June peas.

Monday

Cafeteria menu — Special: hamburger steak. Entrees: beef Burgundy over noodles, fried chicken. Soup: cream of chicken. Vegetables: buttered corn, carrots, green beans.

Tuesday

BAPCO meeting—The Bay Area PC Organization (BAPCO) will meet at 7:30 p.m. May 22 at the League City Bank and Trust. For more information call Earl Rubenstein, x34807, or Tom Kelly, 996-5019.

Cafeteria menu—Special: turkey and dressing. Entrees: baked meatloaf, liver and onions, barbecue spare ribs. Soup: beef noodle. Vegetables: Spanish rice, broccoli, buttered squash.

Wednesday

JSC Astronomy Seminar—A video tape about the Keck Observatory will be shown from noon-1 p.m. May 23 in Bldg. 31, Rm. 129. For more information call Al Jackson, x33709.

Cafeteria menu—Special: Spanish macaroni. Entrees: broiled fish, tamales with chili. Soup: seafood gumbo. Vegetables: ranch beans, beets, parsley potatoes.

Thursday

JSC Blood Drive — The second

on-site Blood Drive will be from 8-11:30 a.m. and 12:30-3:30 p.m. May 24 at the Gilruth Recreation Center. For more information call Helon Crawford, x34159.

Technical symposium—The American Institute of Aeronautics and Astronautics (AIAA) will hold its 15th annual Technical Symposium from 8 a.m.-5 p.m. May 24 at the University of Houston-Clear Lake. For more information contact Michael R. Laible, 282-4573.

NASACOM meeting—NASACOM (a Commodore Users' Group) will meet at 7:30 p.m. May 24 at the Clear Lake Park building. For more information, contact Glenda at x31764.

Cafeteria menu — Special: chicken fried steak. Entrees: beef pot roast, shrimp chop suey, pork chops. Soup: navy bean soup. Vegetables: carrots, cabbage, green beans.

May 25

Cafeteria menu—Special: tuna and noodle casserole. Entrees: broiled codfish, fried shrimp, baked ham. Soup: seafood gumbo. Vegetables: corn, turnip greens, stewed tomatoes.

May 29

JSC Astronomy Seminar—An open discussion meeting will be held from 12:30-1 p.m. May 29 in Bldg. 31, Rm. 129. For more information call Al Jackson, x33709.

June 3

International Conference—The Space Summit will hold an International Conference on Manned Space Exploration June 3-6. For more information call 1-800-448-4053.

June 4

MPAD wake and reunion—The Mission Planning and Analysis Division

(MPAD) plans a wake and reunion (W&R) for the now-defunct branch. All former civil service MPAD'ers are invited to the 4-8 p.m. June 15 event at the Rec Center Pavilion. Deadline for reservations is June 4. For more information, call Gloria Martinez at x38091.

June 20

Space Business Roundtable—The Houston Space Business Roundtable will hold its first International Symposium on Measurement and Control in Robotics June 20-22 at the Rec Center. For more information call x31724.

ISMCR meeting—The International Symposium and Control in Robotics (ISMCR) will meet at JSC June 20-22. For more information, call Dr. Zafar Taqvi at 333-6544.

October 20

Wings Over Houston—The 1990 Wings Over Houston Airshow will be Oct. 20-21 at Ellington Field. The U.S. Navy's Blue Angel aerial demonstration and the U.S. Marine Corps' vertical take off and landing jet, the Harrier, will participate. The Confederate Air Force will also celebrate the 50th anniversary of the Battle of Britain with its WWII airpower demonstration. Contact Col. Ray Jones, 850-7545 or Lu Lewis, 784-5200 for more information.

October 30

Space Exploration '90—A major conference and aerospace industry exposition, sponsored by the NASA Alumni League, will be held Oct. 30-Nov. 1 at the South Shore Harbour Resort and Conference Center. Contact Carol Ramey, exposition manager, 800-765-7615, for information.

x33441.

Bach Stradivarius trombone, 42B w/F trigger attach., ex. cond. 334-4894.

Photographic

Minolta X-700 SLR cam., auto. shutter spd./aperture w/priority mode, 50mm lens, case, TTL flash incl., \$250. 486-4426.

Pets & Livestock

Sib. Husky/wolf pup, 10 wks. old, great w/kids, shots, papers, \$100; 2-30 gal. aqua. w/stands, etc., \$150. LaVon, x31129 or 486-1187.

Raindoves, brn. ringneck, \$2/ea. Clarence Blume, x38820 or 554-2911.

Sib. Husky pup, 3 mos. old, F, sable/white w/brn. eyes, not reg., \$100, OBO. Patty, x35461 or 991-5280.

Zebra finches, white w/brn. doves, guinea pigs, \$10, OBO. Jim, 282-3750 or 482-6744.

Free, 4 cats, 7 wks. old. x33443.

Cocker Spaniel pups, AKC, champion sired, avail. 5/25, \$190, red/white and buff. Robyn, 283-4832 or 488-4190.

Free, F Collie/Shepard, 2.5 yrs. old, loves children. x33415 or 337-4854.

Trained gun dog, 2 yr. old male Lab. Retriever, AKC, one season duck/goose hunting, \$750. Bruce Snyder, 282-4924 or 431-2296.

1 M Cocker Spaniel pup w/papers, blk., shots, 11 wks. old, \$175. Mary, 282-2535 or 943-3726.

Free, F Collie/Shepard, 2.5 yrs. old, loves children. x33415 or 337-4854.

Trained gun dog, 2 yr. old male Lab. Retriever, AKC, one season duck/goose hunting, \$750. Bruce Snyder, 282-4924 or 431-2296.

1 M Cocker Spaniel pup w/papers, blk., shots, 11 wks. old, \$175. Mary, 282-2535 or 943-3726.

Trans. membership to Pres. & 1st Lady w/ nonescalating dues. 486-9605.

Dependable ride from Pasadena/Raspberry, hrs. flex. Pee Wee. x33778 or 946-7587.

'76-'77 Olds Cutlass Supreme, working or not. 339-1270.

Good used trigger trombone. 534-4089.

Leftover gar. sale items, no junk. 339-1337.

Used hard top for CJ-5 jeep. 481-3542.

Motocross chest protector/pants, also motocross bike (125cc) '84 or newer. Andy, 333-6671 or 332-9105.

Toy trains, Starwars toys. Ron, 482-1385.

Non-smoking fem. to share CLC house, \$275/mo. plus 1/2 util. Sharon, 480-6713.

Chrome step bumper for '88-'90 Chevy PU or '88-'90 Ford van, to \$75. Don, x38039 or 333-3313.

Want to buy 4-5 BR home, VA or FHA nonqual. assumpt., prmts. to \$1,400, equity nego., 15 min. of JSC. 326-3474.

Speech/voice instructor. John Trebes, x37215 or 333-4374.

Non-smoking fem. to share 2-1.5 apt., CL Falls, \$275 plus 1/2 util. Joy, x30416 or 488-8516.

To rent 3 BR home near JSC. Kathleen, 480-1024 or 333-7075.

Scuba gear, reg., BC, wetsuit, knife, etc. Russell, 481-3555.

Miscellaneous

New Wm. Rogers Silverplate, serv. for 8, 56 pcs., 7 ext. pcs. 783-9164.

Wedding gown, cath. lgh., Prisilla neckline, beading, sequins, \$500, incl. veil/shoes. Lisa,

282-5255 or 996-7734.

Sofa, loveseat, chair, ottoman, beige w/rust flowers, ex. cond., \$1,500; 27" men's bike, \$25; Austrian crystal fig., \$20/ea. Currie, x34703 or 484-3317.

Sears washer, ex. cond., \$140. 334-1883.

ARP elec. piano w/72 wgt. keys, 16 voices, \$450; teletype, \$25. 486-9605.

Sears port. dishwasher, ex. cond., \$85; HYD CYL 2 1/4 x 5" stroke, \$20; brass boat winch, \$20; wheel barrow, \$20. 921-7212.

Cosco baby walker, \$20. Youm Nguyen. 483-2142.

200 silver dimes, \$80, take BO by 7th day after RU issue. 482-8827.

2 wndw. AC units, 12K BTU, \$350/ea. or \$650/both, OBO. x37246 or 538-3055.

Elec. typewriter, needs repair, \$20. Bill, 554-4781.

3 formal bridesmaid dresses, red satin, sz. 6-8-10, \$40/ea., OBO. Verna, x32209 or 943-0010.

Wetsuit, CLG, Primo, full suit, ex. cond., \$75. Monte, x33441.

'Decade of Discovery'

JSC Picnic especially fun for the young



As usual, the young and the young at heart had the most fun at the 1990 JSC Picnic. The picnic, celebrated May 5 at the Gilruth Recreation Center, sported a full day of fun for JSC civil service and contractor employees and their families. Norma McMinimy, chair of this year's picnic committee, said more than 3,000 people attended.

The fun to be had included, clockwise from above left:

- Three merry makers shuttling back and forth from one

event to another in a big red wagon;

- A youngster swinging swiftly around and around on one of the carnival rides;

- An adult participant in the Almost Anything Goes competition preparing to swing swiftly around a baseball bat and return to her relay teammates in as straight a line as possible;

- Two fun-lovers toasting the afternoon;

- Members of a Ballet Folklórico dance troupe performing

under the pavilion;

- A young picnic-goer giving part of her body to the advancement of the arts at the face-painting booth;

- The winners of the Almost Anything Goes competition, from left, Bob Ess, Kim Miller, Youree Holloway, Tod Smith, Cathy Mosel, and Leslie Schaschl; and

- Members of a not-so-fortunate Almost Anything Goes team falling just short of success in the water bucket balancing department.



Photos by Dale Martin and Brenda Sturman

GE engineer earns Quality Partnership Award

James Ermel, a development engineer for GE Government Services, has been awarded the JSC Quality Partnership Award for his work on the SLS-1 flight program.

Ermel, project engineer for development of Spacelab and orbiter refrigerator/freezers, was cited for applying quality assurance disciplines to the task of testing, certifying and delivering refrigerator units

classified as mission critical equipment on the upcoming STS-40 flight of the Space Life Sciences payload.

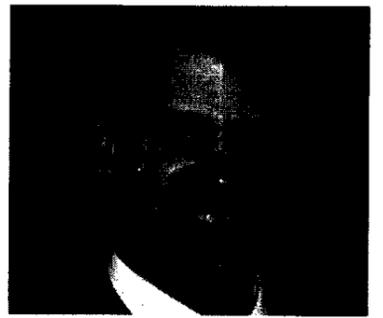
His efforts were instrumental in ensuring that a quality product had been developed, certified and delivered to NASA within a critical specified time period. Ermel assumed responsibility for in-house completion of the project after subcontractor funding had been exhausted and

developed plans, procedures and programs to obtain flight certification. He devised a program to track the status of the project and identified at least four subcontractor workmanship and process control problems.

"James has shown dedication and enthusiasm in correcting and enhancing quality in the refrigerator/freezer project," said Phil Cannon, the GE Safety, Reliability and Quality

Assurance manager who nominated Ermel. "He has incorporated and improvised GE Quality Assurance tracking procedures throughout the development of his project."

The quarterly Quality Partnership Award, established by the Safety, Reliability and Quality Assurance Office, recognizes the quality-related contributions of employees not currently working in the quality field.



James Ermel

Savings Bond Campaign seeks more bond buyers

JSC employees will have the opportunity to invest in America during the annual U.S. Savings Bond Campaign beginning next week and continuing through June 1.

"Historically, employees at the Johnson Space Center have done an outstanding job sharing their economic resources with those less fortunate than themselves as evidenced by this past year's Combined Federal Campaign," said JSC Director Aaron Cohen. "This show of compassion and willingness to help others is something that makes me very proud.

"It is now time for us to help ourselves and our country."

The new savings bond interest rates are market based yet have an

established interest rate floor of 6 percent on bonds held five years or longer. The current six-month rate is 7.01 percent.

About 43 percent of JSC employees now participate in the Payroll Savings Plan. NASA Administrator Richard Truly has established a goal of 45 percent participation this year and 50 percent by 1991.

JSC's 1990 goal is 50 percent participation, Cohen said. In order to achieve that level, 262 more employees must enroll.

"I am looking forward to your support and commitment to the U.S. Savings Bond program," Cohen said. "It is a good way to save for your own future while supporting our country."



JSC Photo

The group of patent holders honored at the JSC Inventors Luncheon is getting larger every year. This year's group is comprised of 40 inventors.

This luncheon is patented

JSC inventors receive honors for their unique ideas

By Kelly Humphries

The inventors who created systems crucial to the Space Shuttle Program's recovery and others that will be important for future programs were honored last Friday at the fourth annual JSC Inventors Luncheon.

The patent holders for the crew escape pole now in use on all shuttles were at the Gilruth Recreation Center, as were those who developed the aerobraking orbital transfer vehicle and those who designed a new smart tunnel docking mechanism.

JSC Director Aaron Cohen presented 47 plaques representing 19 patents to 40 JSC civil service inventors.

Cohen said he is pleased and encouraged by the efforts of JSC's inventors, and stressed the importance of patents to the center, the agency and the country. He urged inventors to encourage their co-workers to report discoveries and inventions for patent purposes.

JSC Patent Counsel Ed Fein said it was appropriate that the luncheon could take place during the week-long celebration of the 200th anni-

versary of the first patent law, enacted in 1790—a year before the Bill of Rights was adopted.

"This is the fourth JSC Inventors Luncheon and it has really grown phenomenally," Fein said. "The patent program at JSC is as healthy as it has ever been."

Winners and their inventions are: Clarence Wesselski, Expandable Pallet for Space Station Interface Attachments;

Franklin Chang-Diaz, Hybrid Plume Plasma Rocket and a Method of Infusion Extraction;

Carl Scott, Kornel Nagy, Barney Roberts, Robert Ried, Kenneth Kroll and Joe Gamble, Aerobraking Orbital Transfer Vehicle;

Herbert Kobayashi, Christopher Lichtenberg, Paul Shores and Allen Cunningham, Method and Apparatus for Measuring Frequency and Phase Difference;

Robert Robinson, Thomas Graves and William Hoffman III, Four-Terminal Connector for Measuring Resistance of a Pyrotechnic Initiator;

Thomas Graves, Robert Yang and Christopher Brown, Toggle Release; Joseph Chandler, Bio-Reactor Chamber;

Charles Allton and James O'Kane, Hatch Cover;

Regina Dugan, System for Venting Gas from a Liquid Storage Tank; Dennis Wells, Nozzle Fabrication Technique;

George Lange, John McManamen and John Schliesing, Docking Mechanism for Spacecraft;

George Parma, Gripping Device; Paul Shores, John Griffin and Herbert Kobayashi, Doppler Radar with Multiphase Modulation of Transmitted and Reflected Signal;

John Schliesing and Kevin Edensborough, Smart Tunnel Docking Mechanism;

Guy King and William Schneider, Double Swivel Toggle Release;

William Thornton Jr. and Henry Whitmore, Apparatus for Waste Collection and Storage;

Joseph Kosmo, Terry Tri, William Spenny and Philip West, Don/Doff Support Stand for Use with Rear Entry Space Suits; and

Winston Goodrich, Clarence Wesselski, Timothy Pelischek, Bruce Becker, John Kahn, Margaret Grimaldi, John McManamen and Edgar Castro, Orbiter Escape Pole.

Galileo maneuvers for Earth flyby

The Jupiter-bound Galileo spacecraft last weekend made several maneuvers that will shape its trajectory for a December flyby of the Earth.

The Galileo flight control team at the Jet Propulsion Laboratory sent the computer program to the spacecraft using the Deep Space Network.

The maneuvers slowed Galileo, traveling at more than 66,000 mph in solar orbit, by about 25 mph. Tiny rocket thrusters pulsed nearly 3,000 times to achieve the trajectory

change. The firings were precisely timed to push the spinning spacecraft in the proper direction.

Launched by the crew of STS-34 in October 1989, Galileo is on a complex course that uses a gravity-assist slingshot effect to develop enough energy to reach Jupiter in late 1995.

Galileo successfully completed its first gravity assist, a flyby of Venus, in February. There will be two flybys of Earth, one in December 1990 and

another in December 1992. Upon reaching Jupiter, Galileo will use a similar combination of gravity and rocket thrust to swing the spacecraft into orbit around the planet and then change orbit many times to allow close examination of Jupiter's major satellites over two years.

Galileo's mission is to study Jupiter's atmosphere, using an atmospheric probe and remote sensing techniques.

Bush recognizes three JSC employees

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ushering in the new era of space: Ruben Zavala, project manager for the middeck accommodations rack in New Initiatives' Space Shuttle and Space Station Freedom Payloads Project Office and a 1977 Texas A&I graduate; Primitivo Perez, head of the shuttle training aircraft simulation section and a 1971 Texas A&I graduate; and Franklin Chang-Diaz,

NASA's first Hispanic astronaut.

He told students that they were coming of age in a golden era of space.

"There's no better example of this than the miracle now orbiting 380 miles above Kingsville—the Hubble Space Telescope," Bush said. "It will see to the furthest reaches of the universe, to the very edges of time."

The president also said the American adventure is a never-ending

story—"a story about a democracy where anything is possible and no dream is too large."

"As this century closes, it is in America's hands to help determine the kind of people, the kind of planet, we will become in the next," he said. "We will leave the solar system and travel to the stars. Not only because it is democracy's dream, but because it is democracy's destiny."

Space News Roundup

The Roundup is an official publication of the National Aeronautics and Space Administration, Lyndon B. Johnson Space Center, Houston, Texas, and is published every Friday by the Public Affairs Office for all space center employees.

Editor Kelly Humphries
Associate Editors Pam Alloway
Kari Fluegel

NSTA abstracts due

Houston will host the National Science Teachers Association's annual meeting March 27-30, and the deadline for abstracts is nearing.

The deadline is June 1 for proposals on 60-minute hands-on workshops, 30- and 60-minute demonstrations, 15- and 60-minute papers, and 60-minute panel discussions.

For more information, call Jim Poindexter at x38624.

Gooding earns award

(Continued from Page 1)

NASA Headquarters.

Dr. Arthur S. Flemming was a career civil servant whose many posts spanned several administrations and included membership on President Eisenhower's Advisory Committee on Government Organization, the International Civil Service Advisory Board and the National Advisory Committee of the Peace Corp. He was secretary of Health, Education and Welfare from 1958-61, U.S. Commissioner on Aging from 1973-78, and chairman of the U.S. Commission on Civil Rights from 1974-82.

NASA-JSC

Hubble focus adjusted

(Continued from Page 1)

"For the first time we are sure where we are pointing," said Ed Weiler, chief HST program scientist. "We have made a significant accomplishment."

Operators also have reduced a "jitter" in the sensors, and are continuing to analyse a tendency for the telescope to vibrate when HST crosses from night into day.